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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/750,346

12/31/2003

Gil I. Nadel

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35690

7590

09/22/2008

MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.

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EXAMINER

HO, BINH VAN

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/750,346	<b>Applicant(s)</b> NADEL ET AL.	
	<b>Examiner</b> BINH V. HO	<b>Art Unit</b> 2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/31/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. This is a response to amendment filed 06/11/2008.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3, 7-9, 11, 15-17, 19, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bossman (US 2003/0182276) in view of Chambliss (U.S. 2005/0076154).

(Claims 1, 9, and 25)

Bossman discloses substantially all of the elements, in figures 1-4, a method for tuning database objects (Abstract), the method comprising collecting and storing performance data for a plurality of database objects in a database server computer system ("access database information maintained in one or more databases 6", paragraph [0024]; 6), wherein each of the plurality of database objects comprises an aggregation of stored data ("storage space 14 stores the actual data sets that include the data for the indexes and tables", paragraph [0025]; 14; 6); detecting a performance problem in the database server computer system ("uses heuristic rules to determine SQL performance problems", paragraph [0028]; [0012]-[0015]; Abstract); identifying a problematic database object of the plurality of database objects using the performance

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data for the plurality of database objects, wherein the problematic database object is related to the performance problem (“identify common causes of SQL performance problems”, paragraph [0008]-[0009], [0028]-[0029], [0034], [0052]); and tuning the problematic database object to improve performance of access to the stored data in the database server computer system (“tune the base access plan to improve performance”, Abstract, paragraph [0012], claim 1), except wherein the performance data comprises a plurality of access times. Chambliss teaches each Input/Output path between a host application 4a, 4b, 4c, and a storage system 6a, 6b, and 6c is assigned to a particular performance gateway 14a, 14b. The performance gateways 14a, 14b intercept the I/O command for the assigned path (e.g., host and application) and records performance data for the I/O command, such as access time, time to complete, I/O throughput, etc (paragraph [0019]. It would have been obvious at the time of the invention was made for one person of the ordinary skill in the art to modify the disclosure of Chambliss to measurement the access time of Input/Output performance.

(Claim 17)

Bossman discloses substantially all of the elements, in figures 1-4, a performance management system, comprising a database server comprising a plurality of database objects (“access database information maintained in one or more databases 6”, paragraph [0024]; 6), wherein each of the plurality of database objects comprises an aggregation of stored data (“storage space 14 stores the actual data sets that include the data for the indexes and tables“, paragraph [0025]; 14; 6); and a

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performance warehouse which stores performance data for the plurality of database objects, wherein the performance data comprises a plurality of access times; at least one processor; and a memory (304) coupled to the at least one processor (302), wherein the memory stores program instructions that are executable by the at least one processor to: ("Programs in the storage 306 are loaded into the memory 304 and executed by the processor 302 in a manner known in the art ", paragraph [0060]), ~~wherein the performance management system is configured to:~~ detect a performance problem in the database server ("uses heuristic rules to determine SQL performance problems", paragraph [0028]; [0012]-[0015]; Abstract); identify a problematic database object of the plurality of database objects using the performance data for the plurality of database objects, wherein the problematic database object is related to the performance problem ("identify common causes of SQL performance problems", paragraph [0008]-[0009], [0028]-[0029], [0034], [0052]); and tune the problematic database object to improve performance of access to the stored data in the database server ("tune the base access plan to improve performance", Abstract, paragraph [0012], claim 1), except wherein the performance data comprises a plurality of access times. Chambliss teaches each Input/Output path between a host application 4a, 4b, 4c, and a storage system 6a, 6b, and 6c is assigned to a particular performance gateway 14a, 14b. The performance gateways 14a, 14b intercept the I/O command for the assigned path (e.g., host and application) and records performance data for the I/O command, such as access time, time to complete, I/O throughput, etc (paragraph [0019]. It would have been obvious at the time of the invention was made for one

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person of the ordinary skill in the art to modify the disclosure of Chambliss to measurement the access time of Input/Output performance.

(Claims 3, 11, and 19)

Bossman discloses in figures 1-3, wherein tuning the problematic database object to improve performance of access to the stored data in the database server computer system comprises creating a new access path to the problematic database object ("access path selection by reducing access paths considered to be sub-optimal", paragraph [0034]).

(Claims 7-8, 15-16, and 23-24)

Bossman discloses wherein the performance data comprises a resource contention (paragraph [0009]).

3. Claims 2, 10, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bossman (US 2003/0182276) in view of Ganesh (U.S. 6,192,377).

(Claims 2, 10, and 18)

Bossman discloses substantially all of the elements, wherein tuning the problematic database object to improve performance of access to the stored data in the database server computer system comprises moving the problematic database object from nonvolatile storage to volatile storage for improved speed of access. Ganesh teaches database systems, copies of data items contained in the database are often

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stored in a volatile memory which requires less time to access than non-volatile memory to improve transaction processing performance (col. 1, lines 33-42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to store data in a volatile memory which requires less time to access than non-volatile memory to improve transaction processing performance.

4. Claims 4-6, 12-14, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bossman (US 2003/0182276) in view of Do (U.S. 2004/0172636).

(Claims 4, 12, and 20)

Bossman discloses substantially all of the elements, except wherein tuning the problematic database object to improve performance of access to the stored data in the database server computer system comprises moving the problematic database object from heavily loaded storage components to less loaded storage components. Do teaches to improve the performance and availability of data access, from a host to remote data storage subsystems for example, the host machine must be able to access remote data storage subsystems through multiple paths thereby increasing the data access (paragraph [0008]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to improve the performance and availability of data, an I/O workload can be spread over multiple active paths by the optimizer, which can eliminate bottlenecks that occur when many I/O operations are directed to a device.

(Claims 5-6, 13-14, and 21-22)

Do discloses in figures 7, wherein the performance data comprises an I/O wait ("the system waits otherwise 714. Then the bus driver sends this I/O request to the function driver 730 via the selected optimum data path", paragraph [0065]).

### **Response To The Arguments**

5. Applicant's arguments filed on 05/09/2006 have been fully considered. Applicant made the following arguments:

Accordingly, Applicant submits that, "Applicant can find no teaching or suggestion in Bossman that the statistics are performance data comprising a plurality of access times. Instead, Bossman discloses that the statistics relate to the physical layout of the database (see, e.g., paragraphs [0027] and [0044]).

Furthermore, Applicant respectfully submits that Bossman does not teach or suggest a method comprising "identifying a problematic database object of the plurality of database objects using the performance data for the plurality of database objects," in combination with the remaining features of claim 1. In paragraph [0028], Bossman states that the statistics and tile access plan are provided to an SQL tuning tool for determination of SQL performance problems. The performance problems are associated with the access plan (see, e.g., paragraphs [0029], [0030], and [0044]), not with a database object comprising an aggregation of stored data. Additionally, for at least the reasons discussed above, performance data comprising a plurality of access times are not used to identify a problematic database object.



The additional cited references, taken individually or in combination with Bossman, also fail to teach these limitations. For example, as cited by the Examiner in the rejection of claims 5 and 6, Do discloses that a system determines whether a bus driver receives an I/O request; if the bus driver does not receive the I/O request, the system waits (see, e.g., paragraph [0065]). However, Do does not teach or suggest collecting and storing performance data, wherein the performance data comprises a plurality of access times.”

The Examiner respectfully disagreed with the Applicant’s argument above, since Applicant is not clearly defines database object, therefore the access plan can be database object. Also, Applicant currently amended in claims 1, 9, 17 and 25, that “wherein the performance data comprises a plurality of access times”, however, after conducting a further search of the prior art, the Examiner discovered U.S. Publication 2005/0076154 issued to Chambliss et al. It appears that the Chambliss et al. discloses records performance data for the I/O command, such as access time, time to complete, I/O throughput, etc (paragraph [0019]).

### **Conclusion**

6. Applicant's amendment necessitated the new ground of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### **Inquiry**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh V. Ho whose telephone number is 571 272 8583. The examiner can normally be reached on M-F from 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on 571 272 1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Binh V Ho  
Examiner  
Art Unit 2163

/don wong/

Supervisory Patent Examiner, Art Unit 2163